

9 (b) irradiating the solid phase of step (a) with a laser light of 242-257 nm to
10 produce a resonance enhanced Raman backscattered energy; and

11 (c) comparing the induced spectrum of step (b) with said characteristic
12 spectrum to detect the presence of the microorganism in the sample, the method detecting the
13 presence of the microorganism when at least a 200:1 ratio of solid phase immobilized
14 antibodies in the medium to microorganism in the sample exists.

G² 1 11. (Amended) The method of claim 9 wherein the characteristic spectrum is at
2 1498 cm⁻¹.

1 12. (Thrice Amended) A system for the detecting the presence of a specific
2 microorganism in a sample, the microorganism having a characteristic resonance enhanced
3 Raman backscattered energy spectrum produced by irradiating nucleic acids in the
4 microorganism at a wavelength between 242-257 nm, the system comprising:

5 (a) means for contacting the sample with a medium comprising solid phase
6 immobilized antibodies which specifically bind to a characteristic cell surface antigen on the
7 microorganism to form an antigen-antibody complex, thereby immobilizing the microorganism
8 on the solid phase;

9 (b) means for irradiating the solid phase of step (a) with a laser light of 242-
10 257 nm to produce a resonance enhanced Raman backscattered energy spectrum; and

11 (c) means for comparing the induced spectrum of step (b) with the
12 characteristic spectrum to detect the presence of the microorganism in the sample, the system